DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1 – 7, 10, 12, 14, 23, 25, 27, and 28, drawn to an apparatus for providing an enclosure in locations of elevated pressure.

Group II, claim(s) 88 - 90, and 92, drawn to a method of using an apparatus for providing an enclosure in locations of elevated pressure.

2. During a telephone conversation with David Rose on 20 March 2008 a provisional election was made without traverse to prosecute the invention of an apparatus for providing an enclosure in locations of elevated pressure, claims 1 – 7, 10, 12, 14, 23, 25, 27, and 28. Affirmation of this election must be made by applicant in replying to this Office action. Claim 88 – 90 and 92 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

3. The drawings are objected to because it appears that "hydraulic fluid pump 1016" is mislabeled in Fig. 10. Reference character "1016" refers to a structure which is identical to "hooped supporting members 1004" in Fig. 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 – 5, 12, 23, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francois (3,598,275).

Regarding claims 1 - 3, Francois discloses an inner housing comprising an inner housing body (37) and two opposing inner housing ends; an outer housing comprising an outer housing body (36) and two opposing outer housing ends (35); the inner housing (37) being disposed fully within the outer housing (36), the inner and outer housings defining an annular cavity therebetween; and a structural filler (38) within the cavity extending between the outer housing

and the inner housing, the structural filler (38) comprising a plurality of spaced apart structural members (39) for transferring stress between spaced apart regions of the inner surface of the outer housing (36) to corresponding spaced apart regions of the outer surface of the inner housing (37), the structural members occupying a partial volume of the cavity occupied by the structural filler ([Figs. 1 and 5]; column 5, lines 37 – 48). Francois fails to disclose the specific range of percentages of the volume of the cavity that is occupied by the structural filler. However, the optimization of proportions in a prior art device is a design consideration within the skill of the art. *In re Reese*, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

Regarding claim 4, structural members (39) extend circumferentially within the cavity [Figs. 1 and 5].

With regard to claim 5, structural members (39) extend at an angle to the longitudinal axis of the apparatus [Figs. 1 and 5].

Regarding claim 12, structural members (39) extend helically around the longitudinal axis within the cavity [Fig. 5].

Regarding claims 23 and 25, the inner housing (24) and the outer housing (23) comprise a fiber-reinforced matrix comprising one or more fibers (26) extending substantially normal with respect to the longitudinal axis of the apparatus ([Fig. 1]; column 4, lines 43 – 64). The examiner notes that the term "substantially normal" includes fibers that are at a slightly angled orientation with respect to the longitudinal axis, which would mean that the fibers extend helically with respect to the longitudinal axis. Francois fails to disclose the specific range of angles to which each fiber extends relative to the longitudinal axis of the apparatus. However,

the optimization of proportions in a prior art device is a design consideration within the skill of the art. *In re Reese*, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

Regarding claim 27, Francois discloses a plurality of layers of fiber-reinforced matrix, as illustrated by the dark lines with different orientations found in the structural filler in Figs. 1, 4, and 5, one of a pair of adjacent layers having one or more fibers extending at an angle of x* to the longitudinal axis and the second of the pair of adjacent layers having one or more fibers extending at an angle of 360-x° to the longitudinal axis [Figs. 1, 4, and 5].

Regarding claim 28, Francois fails to disclose the specific range of angles "x" calculated relative to the longitudinal axis of the apparatus. However, the optimization of proportions in a prior art device is a design consideration within the skill of the art. *In re Reese*, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francois in view of Brissier et al. (4,815,605). Francois discloses all of the limitations of the above claim(s) except for the structural filler members comprise a metallic or polymeric honeycomb structure. Brissier et al. teaches a metallic honeycomb structure (8) (column 3, lines 1 – 7) that functions as a shock absorber between two metallic walls of an enclosure. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus as disclosed by Francois with the metallic honeycomb structure as taught by Brissier et al. to provide a shock absorbing material between two metallic walls of an enclosure.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Francois in view of Rouse, Jr. (3,167,204). Francois discloses all of the limitations of the above claim(s) except

for the structural members are of an I-beam configuration or are tubular. Rouse, Jr. teaches structural support members (33) of I-beam configuration located between an inner wall (32) and an outer wall (31) of a pressure vessel ([Figs. 4 and 5]; column 2, lines 41 – 44) to provide structural support between the inner wall and the outer wall of a pressure vessel. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus as disclosed by Francois with the structural members as taught by Rouse, Jr. to provide structural support between the inner wall and the outer wall of a pressure vessel.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Francois in view of Miller (3,338,201). Francois discloses all of the limitations of the above claim(s) except for the structural filler members are tubular having a circular cross section and contain a pressurized fluid. Miller teaches tubular structural filler members (36) having a circular cross section and containing a pressurized liquid ([Fig. 7]; column 3, lines 38 – 74) to sustain the excess pressure differential on the exterior of a pressure vessel against the lower pressure inside the pressure vessel. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus as disclosed by Francois with the structural filler as taught by Miller to sustain the excess pressure differential on the exterior of a pressure vessel against the lower pressure inside the pressure vessel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN D. ANDRISH whose telephone number is (571)270-3098. The examiner can normally be reached on Mon - Fri, 7:30am - 5:00pm, Alternate Fri off, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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